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ABSTRACT

The 14 research reviews pertaining to improving vocational education are organized under these topics: (1) Training of Educational Personnel, which reviews simulation and other techniques for developing leadership, facilities and equipment for a comprehensive program, a national conference on postsecondary programs, development of teacher competencies in health occupations programs, project method in distributive education, and program planning, budgeting, and evaluation, and (2) Curriculum and Classroom Technique, which reviews teacher use of instructional resources, military technical training, employers' attitude toward occupational education, sub-professional personnel in health services, and micro-teaching and video recording. "Plain Talk," a continuing column by the editor, discusses the necessity of program improvement through evaluation of goals and implications of economy projections to vocational education. An additional 27 studies and ordering information are included in the bibliography. (SB)

RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

OCTOBER 1970

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PREFACE

Improving Vocational Education

Improvement—An Old Saw With New Twists. If there is a general goal for education, it is safe to state it in the context of improvement and change. The specific nature of the improvement, the agents and process of change, and the benefactors of vocational education are some elements, among many, which have thwarted betterment since the dawn of American education.

For instance, in the profuse educational literature of the twenties, it was the role of supervision to bring about needed change and reform. A half-century later we are quite prone to accept this role for supervisors and administrators under the general term of *leadership*. Teaching and teachers, we infer with tongue-in-cheek, are more *recipients* of the magical leadership process and thus are hardly initiators.

Twenty years ago, Kimball Wiles in a book of supervision for better schools, perceived the process of leadership as "working *for* a group, working *within* a group, or working *on* a group." (Italics are the editor's.) Of course, the democratic leadership concept or working *within* a group, has frequently borne the label of the soft-sell. Most seriously, the concept when applied to teacher-student relationships invariably makes obvious a teaching and learning philosophy which parts company with ground-to-be-covered subject matter and authoritarianism. There is an outside chance that relevancy of the instruction and the curriculum is highly involved. Students seem to think so these days.

Obviously, there are many new twists to the improvement theme. It is interesting to note that there has developed specialized personnel for the study and implementation of educational change. As one would expect, the vocabulary of education has expanded to include terminology for the use of those who seriously would study improvement and change. Consequently, the past four or five years has been a period of accepting and seeking meaning for terms as *innovation*, *exemplary*, *change agent*, and a host of others.

Generally, the movement has been positive for its influence in making us sensitive to the need for change and resultant benefits to American youth and adults. Admittedly, the change process is a complex one, and the role and responsibility for research and research utilization are critical.

Adaptability of School Systems. Schools and school systems can change and accommodate new ideas and innovations. Research about them and the generalizations which emerge sometimes position the reader into an "I told you so" conclusion. On the other hand, it is interesting and valuable to discover what notions may hold water in initiating change and innovation.

An overview from the Institute of Administrative Research which reviewed 200 studies in school system adaptability over the past two decades lists a dozen generalizations of the study.* Paul R. Mort, writing for *Innovation in Education*, a publication of Teachers College, Columbia University, New York, states the following "with reasonable firm support." For brevity, *RV* has paraphrased a few of the findings.

1. An extravagantly long time elapses before an insight into a need is responded to by innovations destined for general acceptance in the schools.
2. Spread of an innovation *through the American school system* proceeds at a slow pace.
3. Complex innovations and simple innovations in their rate of diffusion appear to be about the same; innovations that increase cost tend to move more slowly than those that do not.
4. The innovation receives no recognition during the slow early period of its spread.
5. New practices are taken on in communities with varying degrees.
6. The character of community population explains to no small degree the differences in education adaptability.
7. The strength of these population factors appears to be in understandings and expectations.
8. It may be hypothesized that a far stronger school is now in the making.
9. The school must adopt the responsibility that all children shall learn.
10. A valid assessment of an innovation requires examination of the effect of the innovation on the entire system.
11. Knowledge of the slowness of spread of innovations is essential to innovators.
12. Any innovation that is spreading even more slowly than the slow pace that seems normal may be questioned with respect to authenticity.

*From *The Change Process in Education*. A Selected and Annotated Bibliography. ERIC Clearinghouse on Vocational and Technical Education, Columbus: The Center for Vocational and Technical Education, The Ohio State University, 1970, pp. 21-22.

See Bibliography for information on availability of complete studies

Simulation Techniques To Develop State Leadership

Supervision and Decision-Making Skills in Vocational Education: A Training Program Utilizing Simulation Techniques. Dick C. Rice and Richard F. Meckley. The Center for Vocational and Technical Education, The Ohio State University, Columbus. March 1970.

Simulation Training in Planning Vocational Education Programs and Facilities. Richard F. Meckley, et al. The Center for Vocational and Technical Education, The Ohio State University, Columbus. April 1970.

These publications are the first and second in a series of projects designed to develop, test and disseminate simulation training materials for state leadership development. The third in the series is scheduled for publication in December 1970 by the same publisher.

The first publication focuses on the development of personal and technical skills of supervision and decision-making. The second volume concentrates on the development of personal and technical skills in vocational education program and facility planning. The materials are designed primarily for use with state leadership personnel, either on an inservice basis or through graduate education programs.

Each publication contains four simulation exercises, an instructor's guide, background data for the exercises, and student working papers. The exercises are designed to be used individually, as a group of four exercises, or in combination with the exercises from the other publication.

It is suggested that although an instructor's guide is included with the materials, the unique nature of the materials would necessitate training for use of them. This training can be accomplished through any one of four suggested means:

1. Through experience in conducting simulation training sessions.

2. Through attendance at a Center-sponsored workshop utilizing the materials at which there is provided special instructor preparation.

3. Through apprenticeship to an experienced instructor who is conducting a workshop utilizing the materials.

4. Through extensive consultation and individual instructor preparation with an individual approved by the state leadership and/or dissemination specialist of The Center.

The objectives of the first volume, *Supervision and Decision-Making Skills in Vocational Education*, were established:

1. To delineate the tasks and attendant problems of supervision.

2. To differentiate and show relationships between maintenance and innovative supervision.

3. To show the relevance and importance of communication, human relationships and decision-making to effective supervision and leadership.

4. To practice and relate the concepts above to the solution of supervisory problems through involvement in simulated experiences.

Five objectives were established for the second volume, *Simulation Training in Planning Vocational Education Programs and Facilities.*

1. To delineate some of the tasks and attendant problems one might encounter in planning for a new vocational education facility.

2. To illustrate the relevance and importance of communication, human relations, and decision-making to effective leadership.

3. To develop understanding of the problems in program and facility planning for vocational-technical education.

4. To develop improved skills in program and facility planning of vocational-technical education leaders.

5. To practice and relate the above concepts to the solution of leadership problems through involvement in simulated experiences.

The third publication in the series will focus upon state vocational education planning.

Facilities and Equipment for Comprehensive Programs

Planning Facilities and Equipment for Comprehensive Vocational Education Programs for the Future: Final Report. Milton E. Larson and Duane L. Blake. Colorado State University, Fort Collins. April 1970.

This report of an institute held at Colorado State University in October 1969 includes transcripts of presentations by guest instructors, reports of task force groups and a selected bibliography of relevant literature. Ninety-eight persons who attended the institute included vocational administrators with positions as state directors or supervisors, local directors or individuals deeply involved in the planning of new facilities, teacher-educators responsible for teaching this subject to vocational and technical educators, and facilities planners and architects.

This institute was conceived to provide opportunities for participants to update their knowledge in the field of facilities planning. It was noted that recent estimates indicate 1,872 new area vocational schools will be built between 1966 and 1975 in the United States at a cost of approximately $1.5 billion. The specific goals of the institute were stated as:

1. Identifying trends, developing new approaches and expanding the grasp of knowledge of facilities and equipment planning for vocational educators, facilities planners, architects, and builders.

2. Assembling, evaluating and disseminating innovative ideas and effective working information relative to facilities and equipment planning.

3. Considering problems and standards significant to progress in this field.

4. Assessing the merits of new instructional equipment and other aids associated with facilities planning.

Two presentations, titled "The Challenge — Better Planning" and "Trends and New Directions in Planning Facilities With Implications of the 1968 Act" were made by

Michael Russo, Chief, Planning and Evaluation Branch, U.S. Office of Education.

In his first presentation Mr. Russo offered the following points which he feels should be considered in planning new vocational schools: (a) the possibility of larger classes; (b) the utilization of different time frames; (c) the needs of individual differences; (d) 24-hour utilization of facilities; (e) multiple staffing and simultaneous teaching; (f) clustering of occupations.

Also, (g) closer coordination with labor and industry; (h) cooperative programs; (i) unilateral involvement with academic colleagues; (j) new types and new approaches to curriculum; (k) consideration of the framework being used prior to the development of educational specifications, and (l) consideration of educational specifications so that an architect can interpret them into a building.

Innovative Facilities

Innovative facilities which Mr. Russo suggested in his second presentation were: (a) the open-space concept; (b) use of machine teaching devices; (c) clustering of shops and laboratories; (d) use of variously designed lecture halls; (e) greater emphasis on teacher preparation room; (f) adaptability and flexibility of electronic units and components; (g) design of areas to accommodate both males and females; (h) a community-centered facility to meet the needs of the people; (i) consideration of other agency needs, and (j) larger guidance and testing capability.

Walter M. Arnold, President, American Vocational Research Corporation, presented "Leadership in Facilities Planning." After defining types of people needed for a large-scale planning effort, Dr. Arnold noted that "the core of the leadership in all vocational and technical education is a combination of state and local administrators or institution heads who are responsible for the planning and operation of programs and who are accountable for the results or outcomes."

Two presentations were made by William Chase, Facilities Development Section, U.S. Office of Education: "The Educational Facilities Charrette" and "Educational Specifications." After defining the "charrette" as "a technique for studying and resolving educational facilities development problems within the context of total community planning needs," Dr. Chase described the purposes, action, pre-planning, implementation, advantages, and funding of the technique.

Dr. Chase defined "educational specifications" as "the written description of educational activities and requirements which the school building should accommodate" and noted that these specifications should describe: (a) activities to be housed; (b) number and nature of the occupants or users; (c) spatial relationships of the instructional, administrative and auxiliary areas; (d) space requirements for each of the areas above; (e) furniture and equipment to be housed, and (f) special environmental provisions.

Wallace H. Strevell, professor of education, University of Houston, presented "Survey Technique and Need Studies" and "Planning the Educational Specifications—Master Planning." An extensive look was taken at the major demands of a vocational education survey in the first presentation, and some general information which an architect would need was outlined in Dr. Strevell's second presentation.

Total Spectrum of Needs

James D. MacConnell, Stanford University, presented "Planning for the Total Spectrum of Needs," in which he described the roles of the educator, architect and contractor in developing facilities.

"Considerations for Laboratory Planning" were presented by George Mehallis, Miami-Dade (Fla.) Junior College. Facility and laboratory requirements which he feels should be given careful consideration in planning educational specifications are: areas represented; resource center or library; staff offices; receiving and storage; local limitations; nature of equipment; safety factors; handling of hot metal; interference, and flexibility. Forms for preliminary educational specifications for technical facilities and for equipment selection are appended to the presentation.

George C. Decker, surplus property utilization officer, U.S. Office of Education, presented suggestions for procuring surplus equipment for vocational education facilities.

Two presentations were made by Richard F. Meckley, West Virginia University: "Planning Auxiliary Areas for Vocational and Technical Education Facilities" and "Simulation in Planning Vocational-Technical Schools." Auxiliary spaces considered in the first presentation are the auditorium, informal student assembly areas, instructional materials center, office space and supply and equipment storage.

Two types of simulation training were described in Dr. Meckley's second presentation: the "in-basket/out-basket" technique in which a student playing the role of a principal responds to items of varying degrees of seriousness as they appear in his in-basket; and the "role playing" technique in which students assume certain roles in a number of problem situations.

Building for Future

Raymond J. Needham described the planning and construction of Green River Community College, Auburn, Wash., where he is dean of instruction. A presentation was also made by Clayton E. Farnsworth, in which he described the planning and construction of Southern Nevada Vocational-Technical Center, of which he is director.

Joseph T. Nerden, professor of vocational education, North Carolina State University, presented "Building for the Future or 'Confronting Change —The Challenge of Leadership in Occupational Education'" and "Construction Costs and Methods of Financing Comprehensive Vocational Facilities for the Future." Five major suggestions offered by Dr. Nerden in his first presentation were, in brief: (a) leadership must involve people; (b) there must be communication; (c) creativity, innovation and new ideas must be encouraged; (d) ability, creativity and innovation must be measured and rewarded, and (e) personnel should be identified for growth and promotion.

The final presentation was made by Robert L. McKee, director of Washington AMIDS: "PERT Program Evaluation and Review Technique." Four major criteria which indicate the necessity to use PERT were offered, and a description of the process and a relevant bibliography were also included by the AMIDS director in the report.

National Conference on Post-Secondary Programs

National Conference on Post-Secondary Vocational-Technical Education. Aaron J. Miller and Carroll R. Hyder. The Center for Vocational and Technical Education, The Ohio State University, Columbus. February 1970.

This conference, attended by 145 leaders in vocational and technical education, was cooperatively sponsored by The Center for Vocational and Technical Education at The Ohio State University, the Division of Vocational and Technical Education of the U.S. Office of Education, the American Vocational Association, and the American Association of Junior Colleges. The purpose was "to provide a mechanism for leaders in post-secondary vocational-technical education to examine ways and means of extending and developing vocational-technical programs in post-secondary institutions as reflected in the Vocational Education Amendments of 1968."

The conference sought (a) to familiarize participants with the national status of post-high school vocational and technical education, some of the crucial issues, and alternatives for meeting these issues; and (b) to review and react to positions taken by national consultants on these crucial issues, and to refine the position statements for inclusion in a volume of suggested national guidelines relative to post-secondary vocational-technical education.

Three Topics Discussed

This report consists of two presentations and a summary of discussion group reports for three topics:

1. Who shall be served by post-high school vocational-technical education?
2. Educational personnel development for post-high school vocational-technical education.
3. Organizational structure for post-secondary vocational-technical education.

Albeno P. Garbin, professor of sociology, University of Georgia, presented "Post-Secondary Vocational-Technical Education: Some Considerations Relating to the Student." A major point of Professor Garbin's presentation is a recommendation for a clearinghouse for the recruitment and placement of post-secondary vocational-technical students. Such a clearinghouse would be an "interstitial" organization representing high schools, post-secondary vocational-technical institutions, business-industrial organizations, and other interested groups in a particular employment market area. This central organization would be an agency for collection, classification and distribution of information as well as people.

As Professor Garbin envisioned it, the collection function of a clearinghouse would include the systematic, organized and periodic gathering of data with reference to the following: (a) personal record data from the high schools about their enrollees that may be useful for guidance and counseling purposes; (b) present and anticipated occupational needs and requirements from industrial-business organizations; (c) admissions and graduation requirements, program descriptions, etc., of post-secondary vocational schools, and (d) information relative to the placement and follow-up of post-secondary school graduates.

Clearinghouse personnel would screen student records to determine which students would benefit from post-secondary training, and would conduct counseling sessions with these students and their parents. Each student would then be classified according to the vocational program that appears congruous with his values, interests and abilities, as well as anticipated labor market needs.

Information dissemination activities of the proposed clearinghouse relate to: (a) providing information to the high schools concerning post-secondary schools and programs and the available jobs contingent upon having received post-secondary occupational training; (b) relaying data to curriculum personnel on the post-secondary level about the emergence of new jobs and the upgrading of skills that are essential if the curriculum is to be correlated with available employment opportunities; (c) keeping the industrial-business organizations posted as to the number of persons being trained and their area of skill competency, and (d) informing admissions offices about prospective vocational students if they have not already enrolled.

The clearinghouse would also act to distribute people by: (a) referring high school students to specific post-high schools offering programs compatible with their interests, values and abilities; and, (b) providing counseling to graduates of post-secondary programs and referring them to organizations in need of their skills.

Anticipated Benefits

Many benefits, including saving money through centralization of all of these functions, are expected to accrue from such a proposed clearinghouse. Other benefits anticipated by Professor Garbin are:

1. Emergence of a communication network which would permit decision-making to have a more rational basis.
2. Accordance of more prestige to the post-high school vocational education process.
3. Exposing students to post-high school alternatives other than going to work or to college.
4. Fostering of the idea that students have different kinds of abilities rather than a gradation of ability.
5. Greater numbers of students will be recruited for post-secondary vocational programs, and there will be a higher retention rate due to selective recruiting.
6. Vocational institutions will be in a position to be more responsive to the needs of a changing society.

Alfred M. Phillips, president, Tulsa Junior College, Tulsa, Okla., presented "The People To Be Served by Post-High School Vocational and Technical Education: How Should We Be Serving Them?" He noted that our educational system is subject to pressures which relate quality to academic sophistication, academic standards and liberal arts. "If we are really interested in serving people effectively," he said, "this approach must be altered."

He believes that our traditional philosophies, systems and instructional techniques need refurbishing and updating just as skills do, and that our society cannot afford undeveloped human talent. He concluded that "perception of our manpower needs, recognition of wide varieties and levels of human talent, and designing better systems to educate this

manpower are important, individually. Innovative fusion of all three of these can make our systems of educational service to people very significant."

William L. Ramsey, district director, Milwaukee Area Technical College, presented "Educational Personnel Development: An Institutional Consumer's View." In this position paper Mr. Ramsey uncovers the need for community action and leadership by all of the educational institutions in coope-ation with business and industry for fulfilling the need and interest for more and better trained educational personnel in occupational education. Wide distribution of the results of the conference is seen by Mr. Ramsey as a means of obtaining the financial support necessary for expansion of programs for such personnel.

John G. Nealon and Carl J. Schaefer of the Department of Vocational-Technical Education at Rutgers—The State University, New Brunswick, N.J., presented "The Development of Professional Staff Personnel for Post-Secondary Vocational-Technical Education (From the Perspective of Higher Education)." The presentation includes suggestions for increasing the output of occupational teachers from our educational institutions in order to attempt to fill projected requirements for almost 22,000 new post-secondary occupational education teachers within the next four years. The suggestions included:

1. In order to compete with industry for talent, educational institutions must minimize salary differentials.

2. The occupational educator must be accorded the same respect as any other faculty member of a post-secondary institution.

3. The community college teacher must be sensitive to the goals of the age group he is teaching.

4. A permanent interface must be established between business/industry and education in regional Technology-Resource Centers where preservice and inservice occupational teachers will be kept current.

5. Universities must soon provide interdisciplinary programs between cooperating colleges or departments to produce "custom tailored" teachers for post-secondary educational institutions.

A presentation made by Cecil C. Tyrrell, president, Broome Technical Community College, Binghamton, N.Y., is directed to the organizational pattern of the comprehensive community college, with his own institution used as an example. Objectives which he sees as those which a community college should attempt to meet are:

1. Offering curricula leading to the associate degree for full-time students.

2. Offering curricula leading to achievement of certificates rather than associate degrees.

3. Providing post-high school programs for high school graduates who indica'e a desire to achieve a level above their previously demonstrated ability and thus be eligible for admission into an associate degree program.

4. Promoting acceptance of and encouraging student enrollment in career programs preparing for entry positions in business and industry at the end of two years.

5. Providing university-parallel curricula in engineering, liberal arts and sciences, business and other fields as community needs are determined.

6. Providing service programs in day sessions.

7. Offering a wide evening program with organized curricula of less than associate degree length leading to a diploma.

8. Offering a variety of courses, seminars or conferences designed to meet special needs of area groups either on or off the college campus.

9. Developing a counseling center.

Congressman Roman Pucinski of Illinois presented "Vocational Education—Our Last Remaining Hope."

Health Occupations Programs

Guidelines and Supportive Papers for Planning and Conducting Short-Term Teacher Education Activities: Developing Teaching Competencies Needed by Educational Personnel in Post-Secondary Health Occupations Programs: Lewis D. Holloway. Program in Health Occupations Education, Division of Health Affairs, University of Iowa, Iowa City. February 1970.

Use of persons proficient in health care specialties to teach programs for supportive-level health workers has caused a need for preparing the teachers for their teaching role. This project is attempting to increase the availability of preservice and inservice teacher education activities for personnel engaged in health occupations education.

The report includes a revision of guidelines which were developed for planning and conducting short-term teacher education activities. The original guidelines had been presented at an institute in August 1969, at which they were evaluated. This report also includes the presentations which were made at the institute. A final report of the project, including a description of the institute, an evaluation of it and the results of follow-up activities, will be available in late 1970.

The guidelines, arranged in six modular units, were designed for a two-week institute although they are flexible enough to be used individually or in combination for sessions of varying lengths. Each set of guidelines includes educational objectives, instructional strategies, an annotated bibliography, and supplementary materials as well as supportive papers from the original institute. Topics for the modular units are: (a) supportive personnel in the changing health industry; (b) defining and describing the educational product; (c) the learner and learning; (d) designing learning programs; (e) evaluation in the educational process, and (f) the educational process.

Complete dependence upon the guideline materials is discouraged. It is believed that specific details for education programs should be planned at the local level depending upon the nature of the participant group, time limitations, environment, institutional needs, and availability of funds. The overall objective under which the modular unit objectives were developed was stated: "As a result of participating in this teacher education activity, the trainee will contribute to the goal of improving the teaching-learning process in educational programs preparing health workers."

NOVEMBER ISSUE . . . Next month *RV* will focus on the topic, "Vocational Education Research—A Status Report."

Seminar To Expand Leadership Development

Leadership Development Seminar in Vocational-Technical Education. Final Report. Larry G. Selland. University of Maryland, College Park. January 1969.

The Leadership Development Seminar in Vocational-Technical Education was attended by 34 participants from 21 states in June 1968 at the University of Maryland. The goal of the seminar was to expand the leadership potential of selected state and local educators, charged with responsibilities for comprehensive programs in the field of vocational-technical education. Specifically, it sought:

1. To develop understanding of administrative procedures and policies in the Office of Education as they relate to vocational-technical education programs.

2. To develop leadership capabilities through motivation, information and application of sound leadership techniques.

3. To develop an understanding of resource materials, information and personnel available for program improvement in vocational-technical areas.

4. To develop an understanding of the critical areas of need for programs of vocational-technical education, together with extended awareness of desirable program developments to meet those needs.

5. To extend knowledge of techniques essential for effective coordination with governmental agencies, at all levels, involved in or responsible for vocational-technical education programs.

6. To present pertinent aspects of other disciplines and technologies related to vocational-technical education for the information and guidance of personnel responsible for program improvements.

The objectives were accomplished through presentations, discussions, planning groups, and conference assignments. Three planning group committees were charged with the task of developing a list of ideas and specific plans for implementing the National Advisory Council on Vocational Education's recommendations which the various states could consider for use. Evaluation of the seminar was achieved through pre- and post-conference questionnaires and reactions to conference sessions.

Presentations were made by John A. Beaumont, U.S. Office of Education; Lowell A. Burkett, American Vocational Association; Samuel M. Burt, The W. E. Upjohn Institute for Employment Research; W. Dale Chismore, U.S. Office of Education; Allen R. Lichtenberger, U.S. Office of Education; Jarrot A. Lindsey, Jr., Georgia State Department of Education; James W. Longest, University of Maryland; Sherrill McMillen, U.S. Office of Education; Leon P. Minear, U.S. Office of Education.

Also, Ernest J. Nesius, University of West Virginia; Duane M. Nielsen, U.S. Office of Education; Herbert Righthand, Connecticut State Department of Education; Leonard H. Rosenberg, Chesapeake Life Insurance Co.; Edwin L. Rumpf, U.S. Office of Education; James W. Warren, Jr., U.S. Office of Education; Emanuel Weinstein, U.S. Office of Education, and Ralph C. Wenrich, University of Michigan.

The report contains texts and summaries of presentations made and reports of planning groups which discussed the presentations and made recommendations regarding implementation of National Advisory Committee recommendations.

Evaluation instruments used indicated that the seminar was highly successful in promoting leadership growth of participants. Replies to a six-months evaluation questionnaire evidenced such improvement: "Each of the respondents indicated an increased degree of responsibility for initiating new programs. Several of the participants had assumed new positions of leadership since the seminar and others reported that they were actively involved in leadership responsibilities which were included in the seminar program."

Project Method in D.E.

A Developmental Vocational Education Research and Teacher Education Program Based on a Clinical School Concept: A Pilot Project in the Project Method in Distributive Education. William D. Woolf. Michigan State University, East Lansing. February 1970.

This study was conducted in 17 Michigan high schools through empirical research, curriculum development and inservice teacher education. Empirical research objectives were the comparison of the effectiveness of the project method of instruction and the cooperative method of instruction in preparing eleventh and twelfth grade students for distributive and marketing occupations.

Curriculum objectives were to prepare and evaluate instructional materials, curriculum guides and a teachers' manual for use in the instructional process. Teacher education objectives included the planning, execution and evaluation of an inservice teacher education program designed to prepare distributive education teachers to use the project method of instruction.

Hopes for the project method of instruction in distributive education were that it would:

1. Permit a longer period of personal and educational development within a more fully controlled environment for the immature student.

2. Offer pre-employment training for the student whose physical development or appearance makes on-the-job training during high school inappropriate.

3. Allow longer time and appropriate experiences to help the student make a vocational choice.

4. Accommodate larger numbers of students in communities which have limited numbers of on-the-job training stations.

5. Reduce the cost in time and dollars of providing pre-employment vocational preparation.

Although the scope of the project was reduced during the last two years due to a cutback in funds supplied by the funding agency, some significant findings were obtained. These findings indicate that achievement of cooperative method classes on the tests of sales comprehension were significantly higher than those of the project method classes, and that there was no significant difference between the scores of the project method and cooperative method groups on a test of economic understanding.

In addition to these findings, the project had impact on teacher education through the development of several publications and workshops promoting the project method. School and business community rela-

tions were found to have been very good, with the business community providing field trips, supplying speakers, giving demonstrations, accommodating student observations within the business premises, and supplying research material.

School administration cooperated through providing extra planning time, substitute teacher time and facilities to carry out the project. Teachers indicated that their teaching methodology, student rapport, evaluation of students, and outside activities had improved through involvement in the project.

Recommendations based on experiences in the study were made. One recommendation was for longer periods of evaluation and follow-up and for dissemination of project information to other states.

Program Planning, Budgeting and Evaluation

National Seminar on Program Planning, Budgeting and Evaluation of Vocational-Technical Education: Final Report. Clodus R. Smith and John Connolly. University of Maryland, College Park. June 19-30, 1967.

This seminar at the University of Maryland was designed to increase the planning and evaluation knowledge, understanding and skills of federal and state educators who are responsible for vocational-technical programs. Focusing on the immediate and long-range occupational needs of people, the seminar attempted to:

1. Develop insights into the principles and process of program planning, budgeting and evaluation.
2. Stress the importance of systematic program planning and development to meet constantly changing requirements of vocational-technical education.
3. Involve state, regional and headquarters staff members in learning experiences necessary to design improved program plans for vocational education.
4. Develop a cadre of vocational educators knowledgeable in systematic program planning, budgeting and evaluation.
5. Develop guides and models.

The body of this report consists of papers presented at the seminar. Grant Venn, associate commissioner, U.S. Office of Education, stressed the need for people-directed program planning rather than labor market directed planning. Among long-range goals for vocational education, Dr. Venn included giving more attention to employability skills than to particular job skills, and making chances for re-learning and re-training available to all.

Sherrill McMillen, director, Program Planning and Development Branch, U.S. Office of Education, emphasized the need for systematic program planning and budgeting to justify increased federal expenditures for vocational-technical education.

Peter Pipe outlined procedures for developing objectives, emphasizing that a statement of objectives is a critical component of the planning process. His procedure for formulating objectives includes formulation of a goal, identification of the ultimate product, consideration of processes, and identification of interim products.

Lester Fishman, professor of economics, University of Colorado, suggested data sources for state and local projections. Russell Flanders of the Bureau of Labor Statistics discussed sources and uses of projection data.

A paper on "Developing Policy and Procedures To Achieve Goals and Objectives," presented by Joseph Hall, superintendent of schools, Dade County, Florida, described a systems approach to program planning and budgeting used in his school system. The systems approach, he noted, "provides a framework for defining, analyzing, and solving the complex problems of modern life for structuring the process of change in any field." An important component of a complete planning system is feedback of data, so that the system can be modified and improved, and the procedures which produce optimum results are utilized.

A "Framework for Program and Financial Planning" was presented by Grover Durnell, director, Office of Program Planning, U.S. Office of Education. The program mission, goals, objectives and output, need, priorities, costing and funding, alternatives, reporting, assumptions, and legislation are all a part of his framework.

Steps in preparation, adoption and implementation of a typical state education unit budget were outlined by Richard Howes of the Connecticut State Department of Education.

Leadership for Local Programs

A State Program for the Development of Persons for Leadership Roles in the Administration of Local Programs of Vocational and Technical Education. Final Report. Ralph C. Wenrich, et al. University of Michigan, Ann Arbor. August 1968.

This report concerns the Michigan Leadership Development Program conducted from 1964 through 1967. Each school year 20 men were selected to participate in an 8-week summer workshop and a year-long internship. The major objective of the project was measurement of leadership behaviors of program trainees and comparable non-trainees. It was also hoped to develop an objective formula for the selection of men who would show the most effective leadership behavior in future years.

Training groups and control groups were established for three school years: 1964-65, 1965-66 and 1966-67. In addition, during the 1964-65 school year a third group was made up of trainees who attended only the internship phase of the training program. The latter group was used to examine the relative merits of the summer workshop.

Leadership scores for the experimental and control subjects were measured by five variables:

Position—based on an individual's title or rank within the school or school system and on type and size of the institution in which he is employed.

Time spent in administrative duties—relative to time spent in teaching.

Functions—based on the frequency and level of functioning in six areas (staff personnel, school-community relations, business and financial, program development, pupil-personnel services, and physical facilities).

Vocational-technical role—based on the extracurricular involvement of an individual in vocationally oriented activities.

Agent of change—based on the extent to which a man manages to alter the existing structure of the milieu in which he functions relative to vocational-technical education.

Results of the follow-up of graduates and non-trainees demonstrated that groups trained in the program improved significantly on the leadership variables being measured in contrast to a much slower rate of improvement by non-trainee groups. Also, groups which attended both the summer workshop and the internship were shown to be superior to that which attended the internship only.

Future projects of this nature are recommended, with quantifiable measures of behavior to be changed being stated prior to the experiment. Also, a means for separating the effects of selection, such as random assignment to experimental and control groups, should be effected.

Leadership Training Program Held in Georgia

Vocational Education Leadership Training Program. Final Report. A. B. Racster and R. H. Tolbert. University of Georgia, Athens. February 1969.

Twenty-one participants, including area vocational-technical school directors, coordinators of post-secondary instruction, and supervisors of area vocational high school programs, attended this 20-month training program. The program, divided into three phases, was conducted over a period from November 1966 to June 1968. The purpose was the training of qualified vocational educators for positions as directors or coordinators of secondary or post-secondary programs.

Phase I, conducted from November 1966 through the remainder of the academic year, was concerned with the development of basic understandings of the overall responsibilities of an administrator of a comprehensive program of vocational education. It consisted of a series of two-day monthly meetings, held at various locations in Georgia, to provide participants an opportunity to view different phases of vocational education in operation. Meetings included lectures and discussion groups conducted by recognized professional leaders in the various areas of vocational education.

Phase II was a three-week institute conducted at the University of Georgia during the summer session of 1967. This phase was designed to assist the trainees in:

1. Studying professional problems faced by administrators of vocational-technical education programs.

2. Examining areas of vocational education supervision and administration in terms of operating philosophies.

3. Studying administrative practices and principles in relation to program, organization, and coordination and personnel management.

Phase III consisted of an internship in administration in which the ideas, concepts, principles, and practices dealt with in phases I and II were applied to professional activities. Goals were established for selected strategic professional activities or areas of responsibility for each participant, ways and means for achieving these goals were planned, and proposed target dates for ultimate completion of the activities were established.

Frequent contact throughout the year between program directors and participants aided in criticism and evaluation of progress, and a group meeting of participants held during the year provided an arena for sharing of experiences. Each participant presented final reports to the project directors.

Many problems were encountered during this project which made it difficult, if not impossible, to carry out the original plan. First, the project originator, who was to have worked on the project as a full-time activity, was unable to participate, and he was replaced by two part-time directors who worked on the project in addition to full-time schedules of work. Also, these directors discovered that certain facets of the plan for program evaluation were not feasible due to the unavailability of pre-tests and post-tests which would serve the purpose of program evaluation in administration.

Evaluation of the project points to its success in that the objectives were generally accomplished. The trainees are more competent in leadership positions as a result of the program, they have a working knowledge of a comprehensive program of vocational education as a basis for planning local programs of vocational education, and they have an understanding of administrative organizations and structures of vocational education programs in their home states.

These people have also gained new knowledge of the duties and responsibilities of a vocational education administrator, and they have acquired insight into professional problems with which such an administrator must cope. Finally, they have gained a working knowledge of principles and practices related to vocational education administration and means for using these in on-going programs of vocational education.

Among recommendations for planning of future leadership training programs are the limiting of the number of trainees to 20, and the assignment of at least one full-time person to the project staff. It is suggested that project directors make certain that all trainees in the program have relatively homogeneous administrative responsibilities or that the professional responsibilities of the positions for which they are being trained are relatively similar.

Finally, it is recommended that state vocational education leaders give attention to the establishment of a continuing program for the development of a supply of available persons to fill vacancies in leadership positions in vocational education at local, institutional and state levels.

Prison Program in Computers. A computer programing course offered at the California Institute for Men has led to the formation of an EDP Club at the institution. Activities of the club have included study groups and guest speakers, and it also tries to obtain jobs for members ready to enter the field. Information on the club may be obtained from CIM EDP Club, Attn: C. L. Avery, California Institute for Men, P.O. Box 128, Chino, Calif. 91710.

Teacher Use of Instructional Resources

Instructional Resources for Vocational-Technical Education: Teacher Attitude, Resource Availability, and Resource Utilization. Curtis R. Finch, et al. The Pennsylvania State University, Vocational Education Department, University Park. February 1970.

This report presents the findings of a survey of 100 vocational-technical high school teachers from eight schools in Central Pennsylvania. Objectives of the study were to investigate teacher attitudes toward classroom and non-classroom instructional resources, and to examine interrelationships among teacher attitude toward resources, resource utilization and resource availability.

Five instruments—a teacher information form, an instructional resource checklist, a resource attitude inventory, a resource frequency-of-use inventory, and a resource availability inventory—were used in the study. The instruments were administered to the sample in the spring of 1969.

Findings regarding teacher attitudes toward instructional resources indicated that the group generally had the most favorable attitude toward more "traditional" instructional resources and a less favorable attitude toward more "progressive" resources. The same preferences were found to be true in the teachers' actual use of the resources. The availability of resources was ranked highest for those associated with the traditional classroom (bulletin board, chalkboard, textbook), next highest for those associated with the shop or lab (equipment, project), and finally for resources of a more progressive nature (educational television, computer-assisted instruction, teaching machines).

Results suggested that if a teacher has a positive attitude toward instructional resources he will be more likely to use these resources. Also, the degree to which a resource is available for the teacher use may provide some indication of the extent to which it will be used by the teacher.

Implications for program improvement in vocational-technical education are:

1. Teachers should be fully oriented to each resource as it is being incorporated into the instructional environment.
2. Provision should be made for preservice and inservice teacher experiences which include direct exposure to newer resources.
3. Consideration should be given to the increased availability of more progressive resources for teacher use if it is felt they will make significant contributions to program objectives.
4. Teacher education programs should strive to inculcate the potential teacher with proper attitudes toward all potential instructional resources.
5. Administrators who are desirous of having teachers fully utilize instructional resources would do well to make them readily available for use.
6. The prospective teacher should be provided with extensive information relative to instructional resources in order that he may determine where resources might be best utilized within the instructional environment.

Military Technical Training

The Process of Developing and Improving Course Content for Military Technical Training. Technical Report 69-9. Harold G. Hunter, et al. Human Resources Research Office, George Washington University, Alexandria, Va. May 1969.

This report is one of 11 prepared for the Consolidated Training and Education Training Program (CTEP), supervised by the Assistant Secretary of Defense (Manpower). The study deals with the Curriculum Content Study Area of the CTEP. This report was submitted to the Secretary in August 1966, and although the curriculum development procedures described have been changed and improved since the time the study was made, it provides a record of the methodology used in the study, the study findings, and it serves as a point of departure for future studies of this nature.

The study was devoted to first-term enlisted technical training, particularly that in electronics, used in the U.S. Continental Army Command, the Bureau of Naval Personnel, the Naval Air Technical Training Command, the Air Training Command, and facilities under their command.

A search of the military training literature made possible the construction of a model for curriculum development in military training consisting of seven steps: conducting system analysis; developing task inventory; developing job model; conducting task analysis; deriving training objectives; developing training programs, and monitoring trained product and modifying training curriculum.

A second step in the program consisted of the development of information on current formal procedures and practices in the Armed Forces in order to analyze these procedures and practices in terms of the idealized model. During this step 21 trips were made to major headquarters concerned with training doctrine and formal procedures, and to field installations where actual conduct and development of training takes place.

The comparison of the model process with processes which were observed during visits to training locations produced the following findings:

1. "Few procedures bearing on the first four steps of the model were in effect in the services.
2. "All the services recognized that training objectives should be relevant to the job, and all provided guidance on wording and format. However, there were no directives for collecting and analyzing job information to make objectives as specific as possible.
3. "Procedures for developing training programs were not fully effective because course objectives had not been fully specified. In-

Robert Kinsinger, Kellogg Foundation, Battle Creek, Mich., in his presentation on "Junior College Programs of Preparation for Health Technicians," spoke about "The Core Curriculum." He discussed joint planning activities between university medical centers and two-year colleges, and new uses for autotutorial laboratories.

Otto Legg, U.S. Office of Education, discussed "Methods of Funding Educational Programs for Health Technicians." After presenting some examples of progress being made as a result of interagency cooperation, Dr. Legg stressed that it is important to maintain a "close creative partnership and still preserve the integrity and independence of medical and educational institutions."

Helen Powers, U.S. Office of Education, discussed a "Concept of a Center for Health Occupations," which was developed by a seminar held in Chicago earlier in 1966. Questions that had been raised by the Chicago group were presented for the information of conference participants.

Conrad Herr of the Tufts University School of Medicine spoke on "Tufts' Facilities and Interest in Education for Health Technicians." In describing a health care facility established by the university in the Columbia Point Housing Development, Dr. Herr presented his views on what is needed in the way of personnel to handle such a facility, and the philosophy of their work which these people must possess.

Micro-Teaching and Video Recording

Third Annual National Vocational-Technical Teacher Education Seminar Proceedings: Micro-Teaching and Video Recording. Calvin J. Cotrell and Garry R. Bice. The Center for Vocational and Technical Education, The Ohio State University, Columbus. January 1970.

This is the second of two volumes reporting presentations at the seminar. The first volume, "Teaching Disadvantaged Youth," was abstracted in *RV*, September 1970. The second volume covers presentations for disseminating results of a project undertaken by The Center for Vocational and Technical Education demonstrating the potential of innovations in micro-teaching and video recording through laboratory and field testing.

Part I of the report is a repetition of the general sessions presentations included in the first volume.

Part II summarizes presentations on five studies reported in the subseminar on micro-teaching. The first presentation was made by Charles R. Doty, associate investigator of the Center's project on micro-teaching and video recording (Project 44—Assessment of Micro-Teaching and Video Recording in Vocational and Technical Teacher Education). This presentation discusses four studies and includes three laboratory studies which provided the foundation for field testing and the report of the first field testing in a preservice teacher education class.

Each of the laboratory phases discussed by Dr. Doty was used to develop and test in a simulated program a minimum of two new teacher education techniques, one new teaching skill, and supplementary instructional materials consisting of instruments, video recorded instructional models and presentations. Development and field testing in these four phases were successful; however, suggestions were made for improvement and recommendations were made based on findings and conclusions.

James L. Hoerner, coordinator of Phase 5 of Project 44, described the study conducted in that phase. The study was designed to test the feasibility of using micro-teaching and video recording as a means of improving the effectiveness of the teaching practice sessions in a preservice trade and industrial teacher education workshop. Investigation was made of the use of the video tape recorder as a feedback tool to help the teachers analyze their teaching sessions in the workshop.

Also, a test was made of the the use of four, five-minute micro-teaching lessons in the same time that was customarily used for teaching of two independent, 10-minute lessons. Finally, practice sessions were taught to students of the same age level for which the workshop participants were preparing to teach, instead of to other workshop participants, as has been customarily done.

Donald L. Karr, co-investigator of Phase 5, presented "Practical Findings and Implications of a Preservice Workshop for Teachers." Mr. Karr found that in use of micro-teaching and video recording at The Ohio State University the teacher-educator's critique sessions often became more satisfying and effective if: "(a) the participants could identify many of their own minor mistakes and take certain measures to correct these without being told to do so by the supervising teachers; (b) teacher-educators could concentrate on major points of teaching techniques, and (c) the video tape playback treatments were highly effective in helping teachers to improve faulty speech patterns and to correct their own personal mannerisms."

Preservice Education

Patricia M. Smith, research associate and coordinator of Phase 8, Project 44, described the study which was designed to determine the feasibility of the remote supervision of preservice home economics education students during their student teaching experience. The experimental sample for the study was a group of student teachers in the School of Home Economics at The Ohio State University.

Julia I. Dalrymple, co-investigator on Phase 8, presented some "Practical Findings and Implications of Remote Supervision of Student Teachers." Dr. Dalrymple discussed benefits which accrued from the program, reactions of participants to remote supervision, expressed advantages and disadvantages, and the cost of remote supervision.

Part III consists of presentations of three inservice teacher education field testing studies reported in the subseminar. The Phase 6 field study, "Feedback Techniques for Inservice Technical Teacher Education," is outlined in a presentation made by Fred W. Harrington, research associate and coordinator of Phase 6. The purpose of the Phase 6 study was "to test the feasibility and compare the potential effectiveness of four feedback techniques involving micro-teaching and video recording

formation on the capability demanded of the graduate was also needed for more effective development of training programs.

4. "In general, evaluation practices of the services did not assess training effectiveness.

5. "The importance of training as a military activity is indicated by the fact that training costs amount to 6 percent of the Defense Budget."

It was concluded that improved procedures to determine the adequacy of training content and the means for improvement were needed by the services. This could partially be attained through provision of more opportunities for career fields in training. This would assign the opportunities an importance commensurate with the importance of training as a military activity.

Employers Look at Occupational Education

1,000 Employers Look at Occupational Education: Report Number One, Occupational Curriculum Project. Martin Hamburger and Harry E. Wolfson. Board of Education of the City of New York. July 1969.

This report is the first in a series of projected studies seeking to provide sound bases for curriculum redevelopment in the occupational education programs of the New York City Board of Education. The objectives established for the overall project were to "make fundamental changes in occupational education programs in New York City; to improve the curriculum; to extend occupational education to more youths; and to introduce a multi-level approach with a variety of time and sequence organization."

The first phase of the project is a curriculum preparation period in which five trade areas are studied as prototypes with an emphasis on opinions of employers, labor, students and graduates, parents and citizens, and educators. Second and third phases will deal with curriculum preparation and try-out, respectively. A fourth phase will evaluate the results in comparison with traditional programs.

The portion of the study reported in this volume began with two planning workshops held in June 1967. One workshop had the participation of leaders in industry, commerce, universities, teacher training, U.S. Office of Education, and labor. The second workshop included among its participants administrators, supervisors and teachers from the schools of the City. Workshop discussions helped in preparing the proposal and in pointing out questions that needed to be answered by employers.

Occupational areas chosen for study were selected for their diversity, importance, projected growth, and adaptability to a great variety of school plants and organizations: (a) business occupations; (b) health occupations, including a range of hospitals and other employers; (c) automotive; (d) metal-working occupations, with a specific portion earmarked for welding, and (e) electro-electronics, evenly divided between electrical and electronics.

A questionnaire was prepared by the project staff for interviewing employers. The original questionnaire was found to be too open-ended, and a revised questionnaire with the same questions put into a more objective form was devised. Ten interviewers were trained: five teachers and five counselors. A total of 1,056 individuals were interviewed, with 994 of the questionnaires used for scoring.

The six areas of concern, as seen in the questions in the interview schedule, were: (a) contacts between schools and employers; (b) educational - curricular requirements of the job as viewed by employers; (c) attitudes toward schools and students; (d) views of job entry and job progress; (e) perspectives on training, and (f) readiness of cooperation.

Findings showed that (a) contacts between schools and employers are not continuous; (b) there is a wide tolerance by employers in regard to educational-curricular requirements of jobs; (c) there is a stereotyped negative attitude toward schools and students; (d) the employers' perspectives on training accept the school-job partnership pattern of training responsibility; (e) the term "entry job" is inadequate and ambiguous and promotional schemes are limited, and (f) although statistics point to general unwillingness of those interviewed to cooperate directly with schools, from the interviewers' perspectives a greater reservoir of potential cooperation exists than statistics show.

Subprofessional Personnel in Health Services

A Conference on New Educational Curricula for Sub-Professional Personnel in Health Services. Grace R. Nangle. Massachusetts State Department of Education, Boston. May 1, 1967.

Sixty-eight persons from the health services field participated in this conference, October 3-5, 1966, at Tufts University. Needs and problems in the health occupational training field were examined in conference discussions for the purpose of designing new program patterns. Speeches by experts in the health field were presented to provide impetus to small group discussions.

Speaking on "Projected Health Manpower Needs," Margaret West, U.S. Public Health Service, reviewed social and economic factors which are pushing up demands, long-range trends in the supply and demands for health manpower, and indications of demand for health technicians.

Dr. Ellsworth Neumann, Massachusetts General Hospital, Boston, covered several points of motivation used in his institution for the improvement of health personnel. His topic was "The Hospital's Role in Inservice Education."

Teresina B. Thompson of the Springfield Trade High School and Technical Institute, Springfield, Mass., outlined the history of the health occupations educational programs at the institute, which conference participants visited.

Edmund McTernan, associate professor, Northeastern University, presented "The University's Role in Para-Medical Education." The special resources for performing a role in health occupations education which are found in a university are identified, and concern is expressed for the need of a "ladder approach" so that persons in the health occupations could move up in the field rather than being pigeonholed as LPN's or RN's.

in an inservice technical teacher education program at The Columbus Technical Institute, Columbus, Ohio.

In the Phase 6 study, 28 instructors at the institute were assigned to one of four feedback groups—self-analysis, fellow instructor analysis, student analysis, and teacher-educator analysis—and were given pre-tests in the form of teaching micro-lessons. After lessons were given in improvement of teaching techniques, a post-test was also given. No significant difference in performance, based on post-test scores, was noted between the various feedback groups. However, a significant positive reaction from those in the self-analysis group was noted, as was a negative reaction from the fellow instructor analysis group. A gain in performance was noted for all feedback groups. Harold M. Nester, co-investigator of Phase 6, discussed practical findings and implications of the study.

Teaching Practice Session

A second presentation made by Charles R. Doty outlined Phase 7 of the project, "Micro-Teaching and Video Feedback of Actual Classroom and Laboratory Teaching," conducted in cooperation with the State University of New York at Oswego and the City University of New York. The purpose of Phase 7 was to assess the value of micro-teaching and video feedback in courses which incorporate teaching practice sessions. The experiment involved groups of inservice teachers at three institutions who were given both conventional and video taped feedback. Findings revealed that although no significant differences were realized between any two treatments at any site, or between teacher satisfaction at any site, teacher-educators selected for adoption those techniques containing video feedback.

Practical findings and implications of this study were presented by Donn Billings, co-investigator of Phase 7. Problems of implementation, accrued benefits, cost of operation, reaction of local educators, and acceptance by the university were examined.

Gordon G. McMahon, co-investigator of Phase 7, presented some of the problems and advantages encountered in the use of micro-teaching and video feedback of actual classroom and laboratory teaching. He found that man's natural curiosity about how he looks to others stimulated enthusiasm for video feedback. This lessened antagonism between the older vocational-technical student teachers and their younger teacher educators.

Walter A. Cameron, coordinator of Phase 10 of Project 44, outlined "Remote Feedback Techniques for Inservice Education." Three remote techniques (video-phone, video-mail, and video self-evaluation) were tested on beginning vocational-technical teachers in the State of Colorado. Thirteen teachers were assigned to each technique group. No statistically significant differences were found among the three groups in performance of teaching skills or in their expressed satisfaction with the technique used. The video-mail and video self-evaluation feedback treatments were significantly better than the video-phone feedback treatment in regard to teachers making positive changes in their teaching mannerisms.

Implications Investigated

Disadvantages as well as advantages were noted by participating teachers for each technique. Video-phone feedback caused a rigid time schedule, but provided for two-way communications with the teacher-educator. Video-mail feedback provided a flexible time schedule, but provided no two-way communication. Anxiety was expressed by those teachers receiving video self-evaluation feedback because of lack of feedback from the teacher-educator, although they confirmed that this technique provided a self-improvement program.

Practical findings and implications of these techniques were presented by Ronald E. Glenn, co-investigator of Phase 10. Problems which became apparent and which Dr. Glenn considered noteworthy were:

1. Morale problems involved with selecting small numbers of students to serve as micro-classes.
2. Short supply of equipment.
3. The need for limitation of participants.
4. The heavy workload generated for the teacher-educator.

Dr. Glenn also identified some of the more apparent benefits:

1. The teachers became more proficient in operation of video tape equipment.
2. Immediate identification of personal teaching weaknesses allowed for their correction.
3. Many creative ideas were stimulated for adapting video tape techniques to other facets of the learning process.

"Micro-Supervision" Phase

Part IV of this report contains the subseminar presentations on Phase 9, "Micro-Supervision," which was designed to test the feasibility of a workshop for the preparation of teacher-educators. Shirley A. Chase, coordinator of Phase 9, described the study. The stated purpose of Phase 9 was to "design and test a prototype training program to assist teacher-educators in the development of supervisory skills through micro-supervision" (the employment of the principles of micro-teaching at the higher level of preparing teacher educators.)

Participants in the experiment included high school pupils who served as students for the micro-teaching sessions, teachers who taught the micro-sessions, teacher-educators-in-training, and two master teacher educators. Half of the teacher-educators-in-training received individual conferences with the master teacher-educator, and the other half received group conferences. No statistically significant difference was noted in performance scores of the two groups, in their progress in skill performance, or in their satisfaction with the methods. It was suggested that a combination of the two techniques might be the most effective and satisfactory method to pursue.

Practical findings and implications of Phase 9, presented by Anna M. Gorman, a master teacher-educator for Phase 9, included three which grew out of the group conference idea:

1. A person must be more perceptive and sensitive in a group situation than in individual conferences.
2. Five conferences should be held, because the quality of group reinforcement took about three sessions to develop.
3. Group conference participants should also have the opportunity to have individual conferences with the master teacher-educator.

plain talk

George L. Brandon, Editor, Research Visibility

It's time to feel the pulse again. Official pulse-taking time, occurring every ten years in the American economy, is a live basis for "Plain Talk" this month. Actually, pulse-taking and nose-counting on a continuous basis has become a way of life for active vocational educators and manpower planners. To those of us who are not attracted by the data of population and their projections and the *quantitative* picture, we can take little solace that it will all go away. Unfortunately, the numbers game sometimes has little to say about the *quality* of vocational education, worse yet about the opportunity and accessibility of occupational education in its many forms to those Americans who, for many reasons, are denied its many benefits and advantages.

The improvement of our programs requires renewed inspection of our goals on every level. One rich basis for the goal-setting process is in the analysis, projection and determination of program meaning and implications of the workforce and the Nation's population characteristics. As a starter, what implications for vocational and technical education should we conjecture from the following projections of the U.S. economy of 1980?

- The labor force will have climbed by one-fifth to 100 million workers, and will include a large supply of young workers, age 25-34, totaling 26 million.
- The educational level of the labor force will have risen substantially.
- GNP (gross national product), growing at the rate of 4.3 percent a year through the 1970s, will have reached $1.4 trillion in 1968 dollars.
- Productivity, advancing steadily if at a slightly slower pace than in the 1960s, will have increased 3 percent a year.
- Hours will have declined to 38 a week, at the very slow pace of 0.1 percent a year through the 1970s.
- Industry employment will have continued to shift toward the service industries, including trade and government.
- Occupational employment will have continued a long-term shift toward the white-collar occupations and those requiring the most education and training.*

Do not stop pondering with the above, but take a quick glance at the *demographic* changes. First off, the labor force of the 80s will show a different *age* profile—teenagers and those in their early twenties (one of the bulges of the 60s) will be transferred in the coming decade to those in their late twenties and early thirties. In contrast, the 45-64 age group by 1980 will be barely 5 percent higher than a decade earlier.

Likely implications? *Teenagers*—slowdown may improve job opportunities; *young workers*—keen competition for entry-level jobs, but better opportunities for advancement to higher levels (competent older workers may be stretched thin); *experienced midcareer workers*—may be pushed hard to hold their own against the young, better educated and trained; *older workers*—may be pressured into earlier retirement by supply of young workers with consequent emphasis upon preretirement planning, community service projects; *women workers*—particular participation of younger women in child-bearing years suggests more day care centers, more part-time job opportunities, adjustment of job requirements to meet physical characteristics.

BLS concludes on the following note: "The current difficulties of meshing the twin objectives of high employment and price stability and solving such problems as urban congestion, the lack of equal opportunity, rising crime, the disaffection of the young, and environmental pollution are enough to cast doubt on any optimistic view of the future. The challenge to the Nation during the 1970s will be to solve these pressing problems before they seriously erode the economy's capacity to realize its growth potential."

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* "The U.S. Economy in 1980: a Preview of BLS Projections." *Monthly Labor Review*. April 1970, p. 3. Bureau of Labor Statistics, U. S. Department of Labor. Reprint 2666. Government Printing Office.

More than new straws in the wind. Notwithstanding the importance of "evaluation" and "accreditation" to the profession, the popularity of the terms is wearing thin. The *in*-group now talks *accountability* and a curious rider, *education vouchers*. Both have serious overtones; both are not new. They are seriously interrelated in implications for American education.

"The concept of accountability implies that people will be held responsible for achieving a portion of the results that a school system defines as essential," says Willard Fox in an editorial. "Accountability means that schools will set up practical, measurable and specific goals and hold individuals answerable for seeing that these are achieved.

"The whole idea of goal setting is not new, but goal setting that implements the accountability concept requires more direction, more preciseness and more specifics with regard to attainment than the education fraternity is used to. It appears to me that educators have long paid too much attention to administrative arrangements, procedures and methods and not enough attention to getting the desired results.

"As the accountability concept forces educators to pay more attention to results, we can expect to see less attention paid to the sanctimonious aspects of administrative arrangements, procedures and methods which at this time often seem to be ends in themselves."**

Educational vouchers bite at educational reform and producing results in another manner. Somewhat similar to GI veterans benefits, the voucher idea is that parents would receive for each child a voucher equal in value to the local public school system's per-pupil spending. The voucher could pay the child's tuition at any school they chose—public, private or parochial. The school would exchange the voucher for cash from a special Educational Voucher Agency.

** Willard Fox. "How 'In' Is Accountable?" *Ohio School Board Journal*. June, 1970, p. 5.

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Topic Two: Improvement of Curriculum and Classroom Technique

"Instructional Resources for Vocational-Technical Education: Teacher Attitude, Resource Availability, and Resource Utilization." Curtis R. Finch, *et al.* The Pennsylvania State University, Vocational Education Department, University Park. February 1970. 54 pages. (See future issue of RIE for ordering information.)

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"A Short Summary of Ten Model Teacher Education Programs." Judith Klatt and Walt Le Baron. System Development Corporation, Falls Church, Va. November 1969. 49 pages. (Available from GPO. Price: 55¢.)

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"Teacher Education for Technical Education in Agriculture." Jerry J. Halterman. *Agricultural Education Magazine.* July 1970. p. 12-13. (Single copies of this issue

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"Agricultural Equipment Technology: A Suggested 2-Year Post High School Curriculum." U.S. Department of Health, Education, and Welfare, Office of Education, Washington, D.C. 1970. 112 pages. (Available from GPO. Price: $1.25.)

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"Guidelines in Business Education 1968." New York State Education Department, Albany. 1969. 57 pages. (ERIC # ED 031 566. HC: $2.95, MF: 25¢. Also available from Department of Business Education, State University of New York, Albany, N.Y. 12203.)

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"Farm Crop Production Technology; A Suggested 2-Year Post High School Curriculum." U.S. Office of Education, Washington, D.C. 1970. 179 pages. (Available from GPO. Price $1.50.)

"Institute in Consumer Education for Disadvantaged Adults: Final Report." Beatrice Paolucci, *et al.* Colleges of Home Economics and Education, Michigan State University, East Lansing. April 1970. 156 pages. (See future issue of RIE for ordering information.)

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"Community College Guide for Associate Degree Programs in Auto and Truck Service/Management." American Association of Junior Colleges, Washington, D.C. (Copies free upon request from Arden Pratt, Occupational Education Specialist, AAJC. One Dupont Circle, Washington, D.C. 20036.)

"Developing Vocational Instruction." R. Mager. Fearon Publishers, Inc., Palo Alto, Calif. 1967. (Available from Fearon Publishers, Inc., 2165 Park Blvd., Palo Alto, Calif. 94306. Price: $2.00.)

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"Development of a Curriculum Guide for Consumer Education in Vocational Home Economics Classes." Nancie Smith Robinson. West Virginia Research Coordinating Unit for Vocational Education, Huntington. August 1969. 140 pages. (ERIC # ED 036 646. HC: $7.10, MF: 75¢.)

ORDERING INFORMATION

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC*, a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A: price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

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George L. Brandon, professor in residence (Pennsylvania State University) is editor of *Research Visibility*. He is assisted in the preparation of these reports by Research Assistant Marsha Golden of the AVA headquarters staff.

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